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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,850	03/12/2004	Seela Raj D. Rajaiah	70040132-1	1751
57299 7590 02/21/2007 AVAGO TECHNOLOGIES, LTD. P.O. BOX 1920 DENVER, CO 80201-1920			EXAMINER KO, TONY	
			ART UNIT 2878	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS		MAIL DATE 02/21/2007	DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/799,850

Applicant(s)

RAJAIAH ET AL.

Examiner

Tony Ko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4, 8, 9 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 4, 8, 9, 14, 15-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear from claim language what constitute a detector. That is, whether a detector comprises a calibration photodiode alone or a detector comprises calibration photodiode, an indexing photodiode and encoding photodiode. Clarification is required.

2. Claim 15-20 recites the limitation "said circuit" in line 7 on page 5. There is insufficient antecedent basis for this limitation in the claim. The deficiency also results the claim to be indefinite. Clarification of the limitation (said circuit) is required

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 8, 9, 14, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blasing (U.S. 20030029993).

5. Regarding claims 4, 8, 9, 14, 15-18, Blasing discloses (Figs. 1-3) an optical encoding system comprising: a photo-emitter (18); a code strip comprising: a

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calibration area (R) for generating a calibration signal, wherein said calibration area comprises a degree of transparency, wherein said transparency decreases as contaminants collect on said code strip; an indexing area (1) for generating an indexing signal; and an encoding area (2) for generating an encoding signal; a detector comprising: a calibration transducer (for section R) for converting a light from a calibration area into an electrical calibration signal, wherein said calibration signals used to determine said degree of transparency of said calibration area; an indexing transducer (for converting signal passes through area 1) to receive for converting light from said indexing area into an electrical indexing signal; and an encoding transducer (for converting signal passes through area 2 shown in figure 3) for converting light from said encoding area into an electrical encoding signal and a circuit coupled with said detector and said photo-emitter, wherein if said degree of transparency of said calibration area is insufficient, said circuit increases a current to said photo-emitter to compensate for said insufficient transparency of said code strip based on said calibration area with no input signals being provided to said circuit from said encoding area or said indexing area. (Col. 4, Lines 6-25). Blasing further discloses the code strip is arranged such that light from the photo-emitter passes through transparent areas on said strip. Blasing inherently discloses the detector is arranged to receive light which passes from said photo-emitter through transparent areas on said code strip. Blasing further teaches the circuit modulates current to said photo-emitter in response to said calibration signal originating from said calibration photodiode on said detector (Col. 4, lines 5-26). Blasing does not disclose the use of photodiode. It is well known to use

photodiodes to convert optical signals into electrical signals. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use photodiodes to implement cost effective detection through the use of photodiodes.

6. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blasing in view of Benz (U.S. 6,483,104).

7. Regarding claims 19 and 20, Blasing discloses the claimed invention set forth above. Blasing does not specifically disclose a wiper to remove contaminants as claimed. Benz teaches (Col. 4, Line 15) cleaning an encoder disk when the transparency falls below a certain level. Thus, Benz recognizes the need to wipe an encoder disk when a degree of transparency is insufficient for improved operation. It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide a wiper as claimed in the apparatus and method of Blasing in view of Benz to improve detection as taught.

Response to Arguments

8. Applicant's arguments filed 11/27/06 have been fully considered but they are not persuasive. Applicant argues that Blasing teaches to use the coded and non-coded tracks to determine transparency, which requires input from both the calibration area and the indexing area. While parts of Blasing's disclosure do require signals from both coded and non-coded area, Column 4 explicitly teaches the calibration signal (reference signal) compares to itself. Such comparison (the previous amplitude and current amplitude of the R signals) of the signal does not require the signal from the coding

area nor the indexing area. In light of Blasing's disclosure, applicant's arguments are found to be not persuasive.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926.

The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



THANH X. LUU
PRIMARY EXAMINER

TKO